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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|--------------------------------|------------------|
| 10/769,164 | 01/30/2004 | James H. Kralick | 89190.109203/DP-308949 | 7762 |
| 7590 Jimmy L. Funke, Esq. Delphi Technologies, Inc. Mail Code 480410202 P.O. Box 5052 Troy, MI 48007 | | | EXAMINER FITZGERALD, JOHN P | |
| | | | ART UNIT 2856 | PAPER NUMBER |
| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
| 3 MONTHS | | 02/27/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/769,164 | Applicant(s) KRALICK ET AL. | |
| | Examiner John Fitzgerald | Art Unit 2856 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

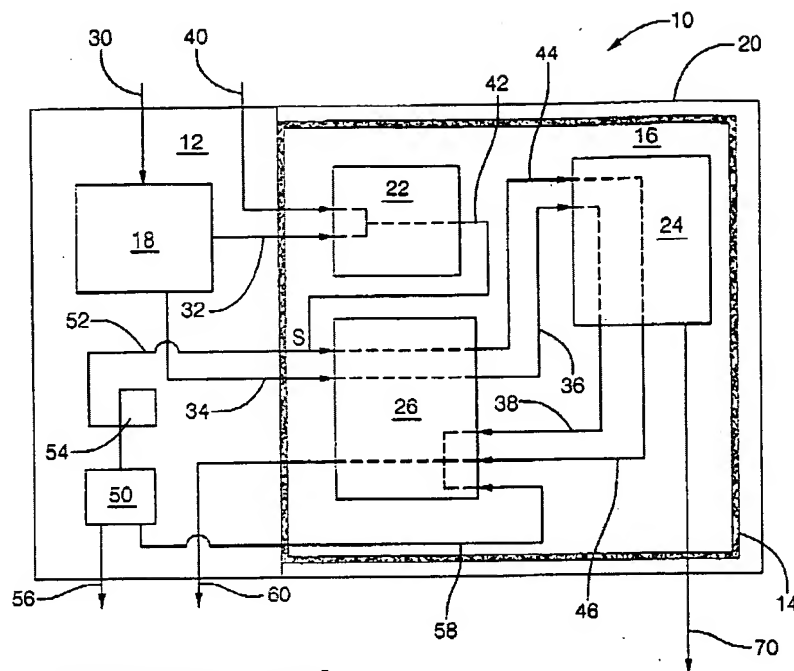
DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 9 and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haltiner, Jr. et al. Haltiner, Jr. et al. disclose a system for monitoring the performance of a fuel stack for a fuel cell (see Fig. 1 below) having all of the recited elements including a fuel stack (24), a hydrocarbon reformer (22) for supplying gaseous fuel in the form of continuous reformat to the stack ; a quantitative hydrocarbon sensor (5) (being any sensor (i.e. catalytic, optical, solid oxide electrode, etc.) to measure hydrogen, methane, carbon monoxide, carbon dioxide, water etc. Haltiner, Jr. et al. col. 5, lines 40-55) (as recited in claims 3 and 4) for measuring hydrocarbon content (as recited in claims 1 and 12) wherein the means for providing a sample of reformat output are an equivalent to the means disclosed in the instant specification.



Haltiner, Jr. et al.

FIG. 1

3. Claims 5 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Haltiner, Jr. et al. as applied to claim 1 above, and further in view of Walz et al. Haltiner, Jr. et al. disclose a fuel cell and system for monitoring the performance of a hydrocarbon reformer having all of the elements stated previously. However, Haltiner, Jr. et al. do not expressly disclose means for providing air to the sensor nor means for shutting down the fuel cell. Walz et al. disclose a method of monitoring the performance of a fuel stack having most of the recited elements of independent claims 1 and 12 (see Fig. 1 below) having sensors (12, 13, 14) for monitoring the quality of the reformate leaving the reformer (4) before entering the fuel stack/cell (1) wherein air/oxygen is fed on a cathode side of one of the sensors (Walz et al.: col. 3, lines 1-7); and wherein a controller can interrupt the system if the reformate quality is below a standard or switched off/shut-down completely (Walz et al.: col. 2, lines 20-25) (as recited in claim 10). It would have been obvious to one having ordinary skill in the art at the time the

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invention was made to feed air/oxygen to a sensor monitoring the reformat for the purposes of having the sensor simultaneously monitoring the air supply or oxygen supply to the fuel cell arrangement (Walz et al.: col. 3, lines 5-7), as well as shutting down the system of delivering reformat to the fuel cell/stack to prevent damage.

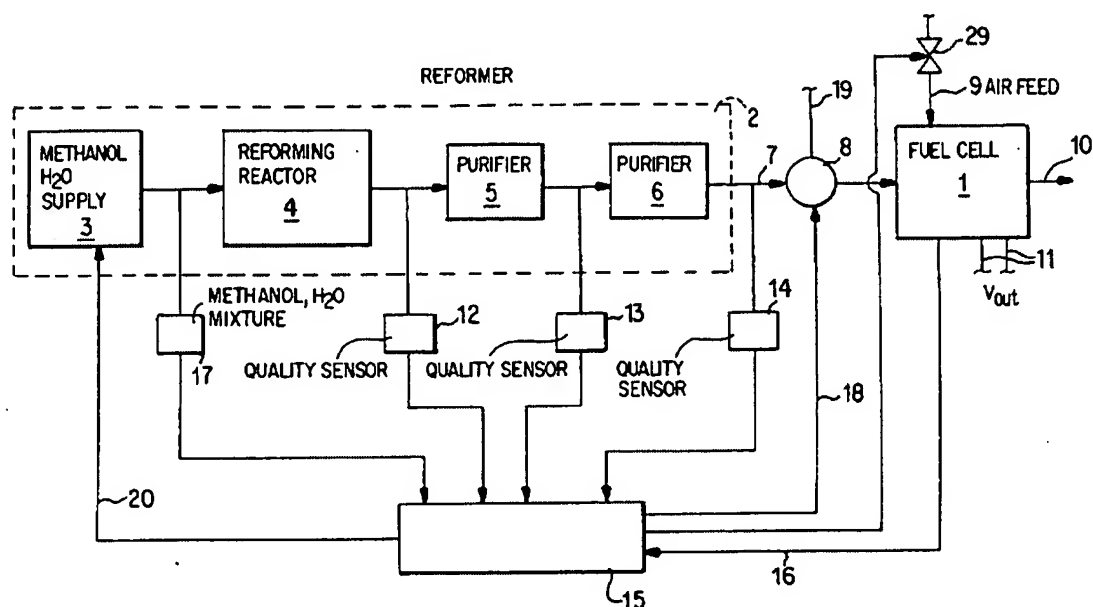


FIG.1

Walz et al.

Allowable Subject Matter

4. Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is invited to review PTO form 892 accompanying this Office Action listing Prior Art relevant to the instant invention cited by the Examiner.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fitzgerald whose telephone number is (571) 272-2843. The examiner can normally be reached on Monday-Friday from 7:00 AM to 3:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams, can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JF
02/20/2007



HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800